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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,071	07/21/2006	Remy Le Bec	ATOCM-356	6958

7590 12/24/2008  
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EXAMINER
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DARJI, PRITESH D

ART UNIT	PAPER NUMBER
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4181

MAIL DATE	DELIVERY MODE
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12/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,071	<b>Applicant(s)</b> LE BEC, REMY	
	<b>Examiner</b> PRITESH DARJI	<b>Art Unit</b> 4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 8-13 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 14-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/21/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Application***

1. Acknowledgement is made of applicant's amendment filed 11/25/08. Upon entering the amendment, the claim 12 is canceled. And claims 13-22 are newly added.
2. The claims 1-11 and 13-22 are pending and the elected claims 1-7 and 14-22 are presented for the examination.

Claims 8-11 and 13 are withdrawn as being a non-elected claims from further consideration.

### ***Response to Arguments***

Applicants' election with traverse of groups I, claims 1-7(original) and 14-22(now newly added) is acknowledged.

Applicants' traversal is not persuasive since the entire inventions lack unity. The groups listed do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical feature for the following reasons: Lack of unity of invention may be directly evident "a priori," that is, before considering the claims in relation to any prior art, for example, independent claims to A + X, A + Y, X + Y can be said to lack unity a priori as there is no subject matter common to all claims., Or it may only become apparent "a posteriori," that is, after taking the prior art into consideration. In the instant case, Groups I-II and IV may have a common feature(i.e. an active charcoal) whereas group III is drawn to a catalyst comprising at least one metal complex. Although the said catalyst may attached to an active charcoal which is not included in part of catalyst

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structure. Therefore, active charcoal is not a feature required by invention of group III as being evident "a priori," that is, before considering the claims in relation to any prior art, for example, independent claims to A + X, A + Y, X + Y can be said to lack unity.

Furthermore, applicant's traversal was based on patentably distinctiveness of the cited reference given by examiner, in which describes "chromium VI-containing activated carbon". In contrast, the activated carbons of the present invention are not seen to contemplate the presence of chromium VI". The examiner's position is that it is noted that applicant does not expressly exclude chromium from activated carbon in claim 1. Moreover, patentably distinctiveness between the prior art and instant invention is not the proper basis for national stage application where the restriction requirement is governed by PCT rule(lack of unity) not distinctiveness. For the aforementioned reason, the requirement is still deemed proper since the inventions of groups I-IV lack unity and thus made FINAL.

### ***Information Disclosure Statement***

The information disclosure statement filed July 21, 2006 lists documents (**FR-2560889 and FR-1301844**). However, no translations have been submitted for the examiner to determine the relevance of the document. Accordingly, it has been placed in the application file, but the information referred to therein has not been considered.

### ***Specification***

The disclosure is objected to because of the following informalities:

On page 8, lines 1-2, unit of bulk density is missing.

Appropriate correction is required.

### ***Claim Objections***

Claim 4 is objected to because of the following informalities: unit of bulk density is missing on line 2. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**1. Claims 1, 2, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Filippova et al. (5,618,573) in view of Marty et al. (US 4,794,097) and Degen et al.(US 4,664,683).**

Regarding claims 1, 2, 17 and 19, Filippova teaches active charcoal has a total pore volume of from about 0.9 to 1.5 cm<sup>3</sup>/g and micropore volume is from 0.2 to 0.3 cm<sup>3</sup>/g, with mesopore volume is about 0.2 to 0.4 cm<sup>3</sup>/g and macropore volume is from 0.4 to 0.9 cm<sup>3</sup>/g.

Filippova doesn't expressly teach the bed strength of active charcoal.

However in self-supporting structures containing immobilized carbon particles, Degen teaches the crush strength of carbon, which is about 400 psi (See column 10, lines 10-12). The conversion of 400 psi to bar is 27.58 bars.

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Therefore, at the time of invention it would have been obvious to a person of ordinary skill in the art to use property of Filippova by using crush strength in view of Degen. The suggestion or motivation for doing so would have been carbon particles retain its characteristics of adsorption (See abstract, lines 4-6) and after applying pressure, it forms structures and immobilizes carbon particles ( See abstract, lines 29-31).

Filippova still doesn't expressly teach specific surface of active charcoal.

However, in a catalytic composite product for the oxidation of mercaptants, Marty teaches a specific surface of activated charcoal to be from 300 to 2500 m<sup>2</sup>/g (See column 2, lines 5-10). Therefore, at the time of invention it would have been obvious to a person of ordinary skill in the art to use active charcoal of Filippova in view of Degen. Since it is recognized that specific surface is a variable to be controlled, one of ordinary skill in the art would have appreciated that specific surface could be optimized. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

**2. Claims 3,5 and 14 are rejected under 35 U.S.C 103 (a) as being unpatentable over Filippova et al. in view of Marty and Degen et al. as applied to claims 1-2, 17 and 19, further in view of Monereau et al. (US 2002/0010093).**

The **Filippova et al., Marty and Degen et al** (combined)' teaching is delineated above in earlier 103 rejection.

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Regarding claim 3, 5 and 14, the references above do not expressly teach iron content in the charcoal.

However, in a process of active charcoal for its use in separation gases, Monereau teaches the active charcoal with an ash level of less than 2 weight percent and iron oxide content is less than 0.03 weight percent (See [0084]). Value 0.03 weight percent in ppm is 300 ppm, which is less than 2000 ppm.

At the time of invention it would been obvious to a person of ordinary skill in the art to use active charcoal properties of above referenced art (first rejection) including using weight percent of ash and iron oxide in view of Monereau. It would have been “obvious to try” the specific structure of the charcoal since described content of ash and iron oxide in the prior art makes it workable in the separating gases.

**3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Filippova et al., Marty and Degen et al., in view of Carlson et al.( US 4,248,694).**

The **Filippova et al., Marty and Degen et al** (combined)’ teaching is described in the first rejection.

Regarding claim 4, the references above do not expressly teach active charcoal bulk density.

However, in a process for treating a sour petroleum distillate, Carlson teaches charcoal particles having bulk density of 0.25 to 0.50 grams per cubic centimeters (See column 1, lines 55-58).

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At the time of invention it would be obvious to a person of ordinary skill in the art to use of above referenced art (first rejection) including using bulk density of active charcoal in view of Carlson. The suggestion or motivation for doing so would have been higher adsorbent capacity of charcoal in presence of density of 0.25 to 0.50 grams per cubic centimeters (See column 2, lines 60-64).

**4. Claim 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Filippova et al., Marty and Degen et al., in view of Martin et al.(US 3,739,550).**

The **Filippova et al., Marty and Degen et al** (combined)' teaching is described in the first rejection.

Regarding claim 6, above references' do not expressly teach size of active charcoal.

However, in adsorbent for desulfurization of sulfur dioxide, Martin teaches active charcoal with a grain size of between 1 and 3mm is impregnated with a mixed catalyst (See column 3, lines 20-23).

At the time of invention it would be obvious to a person of ordinary skill in the art to use of above referenced art (first rejection) using small granules of active charcoal in view of Martin et al. The suggestion or motivation doing so would have been small size active charcoal particles give large surface area so they could be used effectively.

Regarding claim 7 which discusses limitations of process or charcoal production, since the end product is charcoal, the process or source of process is not taken in explanation for.



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“[E]ven though product-by-process claims are limited by and defined by the process; determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” (MPEP 2111.03)

**5. Claims 15, 16, 18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Filippova et al., Marty and Degen and Monereau et al. as described in paragraph (2) above, in view of Carlson et al.( US 4,248,694).**

**Filippova et al., Marty and Degen and Monereau et al. (combined references)**’ teaching is described in the first rejection.

Regarding claim 15, 16, 18, 20 and 21, the references above do not expressly teach active charcoal bulk density.

However, in a process for treating a sour petroleum distillate, Carlson teaches charcoal particles having bulk density of 0.25 to 0.50 grams per cubic centimeters (See column 1, lines 55-58).

At the time of invention it would be obvious to a person of ordinary skill in the art to use of above referenced art (first rejection) including using bulk density of active charcoal in view of Carlson. The suggestion or motivation for doing so would have been higher adsorbent capacity of charcoal in presence of density of 0.25 to 0.50 grams per cubic centimeters (See column 2, lines 60-64).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRITESH DARJI whose telephone number is (571)270-5855. The examiner can normally be reached on Monday to Thursday 8:00AM EST to 6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. D./  
Examiner, Art Unit 4181

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 4181

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